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INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant Richard L. SUTHERLAND, et al	
		Filing Date May 24, 2000	Group 1756

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Sub-Class	Filing Date (if appropriate)

All U.S. references were filed electronically on February 25, 2003 as Part 2 and 3 of this 3-part IDS submission. The paper submission (herewith) is Part 1 of the IDS submission which was also filed on February 25, 2003.

FOREIGN PATENT DOCUMENTS

<i>W</i>	WO 99/09440	2/25/99	Foster-Miller, Inc.	G02B	6/12	8/13/98
<i>W</i>	JP 10319237	12/4/98	Fuji Xerox Co. Ltd. Fuji Xerox Co. Ltd.	G02B	5/32	5/22/97
<i>W</i>	EP 0 867 749 A2	9/30/98	Xerox Corporation	G02F	1/1335	3/12/98
	EP 0 856 768 A2	8/5/98	Xerox Corporation	G02F	1/1347	1/27/98
<i>W</i>	EP 0 856 766 A2	8/5/98	Xerox Corporation	G02F	1/1333	1/27/98
<i>W</i>	EP 0 856 765 A1	8/5/98	Xerox Corporation	G02F	1/1333	1/23/98
<i>W</i>	WO 97/27519	7/31/97	Foster-Miller, Inc.	G03H	1/04	1/29/97

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FOREIGN PATENT DOCUMENTS CONT'D.							
44		GB 2 292 745	3/8/96	Merck Patent GmbH	C09K	15/44	3/8/95
44		DE 44 08 746 A1	9/21/95	Medolas Ges Fuer Medizintechni	A61B	17/36	3/15/94
44		EP 0 672 386 A1	9/20/95	Surgical Systems & Instruments, Inc.	A61B	17/22	3/10/94
44		WO 95/17127	6/29/95	Rygaard, Jorgen	A61B	17/11	4/12/94
44		GB 2 281 566	3/8/95	Merck Patent GmbH	C09K	19/30	9/2/94
44		JP 6-190185	4/27/94	Zanussi Elettrodomestici (IT)	D06F	39/12	
44		WO 94/04958	3/3/94	Merck Patent GmbH	G02F	1/1333	8/12/93
44		EP 0 422 689 A2	4/11/91	Mountpelier Investments, S.A.	A61M	25/00	1/9/87
44		SU 1635966	3/23/91	Sverdlovsk G Med. Inst.	A61B	17/00	3/17/88
44		GB 2 222 696	3/14/90	Exitech Ltd.	G03H	1/04	7/9/88
44		WO 89/06264	7/13/89	Hughes Aircraft Company	C09K	19/00	11/21/88
44		WO 81/00668	3/19/81	Jansen, Anton	A61B	17/11	9/5/80
44		CA 544591	8/6/57	National Research Development Corp.	—	—	—
EXAMINER <i>[Signature]</i> DATE CONSIDERED <i>4/21/03</i>							
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	✓	International Search Report for Application No. PCT/US97/12577, dated January 14, 1998 (mailing date)
	✓	Written Opinion for Application No. PCT/US97/12577, dated April 28, 1998 (mailing date)
	✓	Preliminary Examination Report for Application No. PCT/US97/12577, dated September 3, 1998 (mailing date)
	✓	European Search Report for Application No. EP 97 93 7988, dated October 13, 1999
	✓	International Search Report for Application No. PCT/US00/34661, dated July 17, 2001
	✓	International Search Report for Application No. PCT/US01/40691, dated September 5, 2001 (mailing date)
	✓	International Preliminary Examination Report for Application No. PCT/US00/34661, dated February 20, 2002
	✓	Written Opinion for Application No. PCT/US01/40691, dated May 15, 2002 (mailing date)
	✓	Preliminary Examination Report for Application No. PCT/US01/40691, dated September 10, 2002 (mailing date)
		R. T. Pogue, et al., "Monomer Functionality Effects in the Anisotropic Phase Separation of Liquid Crystals," <i>Polymer</i> 41, pp. 733-741, 2000
		M. Escuti, et al., "5.3: A Model of the Fast-Switching Polymer-Stabilized IPS Configuration," <i>SID International Symposium, Digest of Technical Papers</i> , First Edition, pp. 32-35, May, 1999
		C. C. Bowley, et al., "45.3: Electro-Optic Investigations of H-PDLCs: The Effect of Monomer Functionality on Display Performance," <i>SID International Symposium, Digest of Technical Papers</i> , First Edition, pp. 958-961, May, 1999
		C. C. Bowley, et al., "Advances in Holographic Polymer Dispersed Liquid Crystal Technology," in <i>Liquid Crystal Materials and Devices</i> , Mat. Res. Soc. Symposium Proceedings, Vol. 559, pp. 97-107, 1999
		C. C. Bowley, et al., "Morphology of Holographically-Formed Polymer Dispersed Liquid Crystals (H-PDLC)," <i>Mol. Cryst. Liq. Cryst.</i> , Vol. 331, pp. 209-216, 1999

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication.



RECEIVED
FEB 27 2003
TO 1700

OTHER DOCUMENTS CONT'D. (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>W</i>	M. Date, et al., "Full-Color Reflective Display Device Using Holographically Fabricated Polymer-Dispersed Liquid Crystal (HPDLC)," <i>Journal of the Society for Information Display (SID)</i> , Vol. 7, pp. 17-22, 1999
<i>W</i>	J. A. Firehammer, et al., "Lasing Pixels: A New Application for Polymer Dispersed Liquid Crystals (PDLCS)," <i>Mol. Cryst. Liq. Cryst.</i> , Vol. 331, pp. 165-172, 1999
<i>W</i>	Seferis, James C., "Refractive Indices of Polymers," <i>Polymer Handbook</i> , 4 th Edition, John Wiley & Sons, Inc., pp. 571-582, Copyright 1999
<i>W</i>	Richard L. Sutherland, et al., "Switchable Holograms for Displays and Other Applications," <i>SPIE Proceedings</i> , Vol. 3421, pp. 8-18, June, 1998
<i>W</i>	L. V. Natarajan, et al., "Holographic PDLCS for Optical Beam Modulation, Deflection, and Dynamic Filter Applications," <i>SPIE Proceedings</i> , Vol. 3292, pp. 44-51, January 28-29, 1998
<i>W</i>	L. V. Natarajan, et al., "Electrically Switchable Holograms Containing Novel PDLCS Structures," <i>SPIE Proceedings</i> , Vol. 3143, pp. 182-190, July 28-29, 1997
<i>W</i>	N. M. Lawandy, et al., "L1.3: Lasing Pixel PDLCS Light Valves for Projection Applications," <i>SID International Symposium, Digest of Technical Papers</i> , First Edition, pp. 1001-1004, May, 1997
<i>W</i>	G. P. Crawford, et al., "Reflective Color LCDs Based on H-PDLC and PSCT Technologies," <i>Journal of the Society for Information Display</i> , Vol. 5, No. 1, pp. 45-48, 1997
<i>W</i>	D. Schwarze-Haller and F. Noack, "Nuclear Magnetic Resonance Field-Cycling Proton Relaxation Study of Polymer Dispersed Liquid Crystals," <i>J. Chem. Phys.</i> , Vol. 105, No. 11, pp. 4823-4832, September, 1996
<i>W</i>	Lawrence H. Domash, et al., "Switchable-Focus Lenses in Holographic Polymer Dispersed Liquid Crystal," <i>SPIE</i> , Vol. 2689, pp. 188-194, May, 1996
<i>W</i>	Richard L. Sutherland, et al., "The Physics of Photopolymer-Liquid Crystal Composite Holographic Gratings," <i>SPIE Proceedings</i> , Vol. 2689, pp. 158-169, May, 1996
<i>W</i>	T. J. Bunning, et al., "Liquid Crystals for Advanced Technologies," <i>Materials Research Society</i>, pp. 331-343, April 8-11, 1996 <i>not provided</i>

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication.



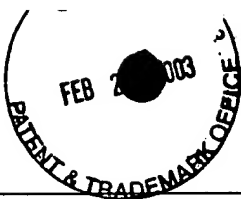
OTHER DOCUMENTS CONT'D. (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>W</i>		R. L. Sutherland, et al., "Switchable Bragg Gratings Formed <i>in situ</i> Within a Polymer-Dispersed Liquid Crystal Composite Medium," <i>Materials Research Society Symp. Proc.</i> , Vol. 425, pp. 331-341, April 8-11, 1996
<i>W</i>	<i>RECEIVED</i> FEB 27 2003	Timothy J. Bunning, et al., "The Effects of Eliminating the Chain Extender and Varying the Grating Periodicity on the Morphology of Holographically Written Bragg Gratings," <i>SPIE Proceedings</i> , Vol. 2651, pp. 44-54, January 31 - February 1, 1996
<i>W</i>	<i>RECEIVED</i> FEB 27 2003	J. Bunning, et al., "Morphology of Reflection Holograms Formed <i>in situ</i> Using Polymer-Dispersed Liquid Crystals," <i>Polymer</i> , Vol. 37, No. 14, pp. 3147-3150, 1996
<i>W</i>		G. S. Iannacchione, et al., "Deuterium NMR and Morphology Study of Polymer-Dispersed Liquid-Crystal Bragg Gratings," <i>Europhysics Letters</i> , Vol. 36, No. 6, pp. 425-430, 1996
<i>W</i>		Richard L. Sutherland, et al., "Analysis of Periodic Polymer-Dispersed Liquid Crystal Structures for Dynamic Hologram Applications," <i>SPIE Proceedings</i> , Vol. 2532, pp. 309-318, July 10-12, 1995
<i>W</i>		Richard L. Sutherland, et al., "Switchable Holograms in New Photopolymer-Liquid Crystal Composite Materials," <i>SPIE Proceedings</i> , Vol. 2404, pp. 132-143, February 9-10, 1995
<i>W</i>		N. Kawatsuki and H. Ono, "Electro-Optical Properties of Polymer/(Liquid Crystal) Composite Film Fabricated by Two-Step Phase Separation Method," <i>Chemistry Letters</i> , No. 5, pp. 333-334, 1995
<i>W</i>		R. L. Sutherland, et al., "Electrically Switchable Volume Gratings in Polymer-Dispersed Liquid Crystals," <i>Appl. Phys. Lett.</i> , Vol. 64, No. 9, pp. 1074-1076, February 28, 1994
<i>W</i>		Richard L. Sutherland, et al., "Development of Photopolymer-Liquid Crystal Composite Materials for Dynamic Hologram Applications," <i>SPIE Proceedings</i> , Vol. 2152, pp. 303-313, January 26-28, 1994
<i>W</i>		K. Tanaka, et al., "Holographically Formed Liquid-Crystal/Polymer Device for Reflective Color Display," <i>Journal of the Society for Information Display</i> , Vol. 2, No. 1, pp. 37-38, 1994
<i>W</i>		L. Domash, et al., "Programmable Beamlet Generator, Dynamic Lens, and Optical Memory Using Electrically Switched Holographic Devices," <i>SPIE Proceedings</i> , Vol. 2026, pp. 642-652, November, 1993

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not



OTHER DOCUMENTS CONT'D. (Including Author, Title, Date, Pertinent Pages, Etc.)

no		Hideya Murai, et al., "Electro-Optic Properties for Liquid Crystal Phase Gratings," <i>SPIE Proceedings</i> , Vol. 1665, pp. 230-239, February 11-13, 1992
RECEIVED FEB 27 2003 TC 1700		Lawrence H. Domash, "Applications of Dynamic Holograms for Quasi-Volume Storage," <i>SPIE Proceedings, Very Large Optical Memories-Materials and System Architectures</i> , Vol. 1773, 5 pp., 1992
		Richard T. Ingwall and Timothy Adams, "Hologram: Liquid Crystal Composites," <i>SPIE Proceedings</i> , Vol. 1555, pp. 279-290, July 24-25, 1991
		A. M. Lackner, et al., "Droplet Size Control in Polymer Dispersed Liquid Crystal Films," <i>SPIE Proceedings</i> , Vol. 1080, pp. 53-61, January 17-18, 1989
		Hori, Asai, and Fukai, "Field-Controllable Liquid-Crystal Phase Grating," <i>IEEE</i> , Vol. ED-16, p. 1734 (4 pp.), 1979
		Edited by H. Bennett, "Concise Chemical and Technical Dictionary, FAIC" Chemical Publishing Co., Inc., 1974 <i>not present</i>
no		R. A. Kashnow and J. E. Bigelow, "Diffraction From a Liquid Crystal Phase Grating," <i>Applied Optics</i> , Vol. 12, No. 10, pp. 2302-2304, October, 1973
no		Stoke, Funkhouser, Leonard, Indebetow, and Zech, "Hand-Held Holography," 1 p., September 19, 1966
EXAMINER	<i>au/h</i>	DATE CONSIDERED <i>4/21/09</i>
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication.		